

# CALTECH NEWS

VOLUME 7, NUMBER 1, FEBRUARY 1973

PUBLISHED FOR ALUMNI AND FRIENDS OF THE CALIFORNIA INSTITUTE OF TECHNOLOGY



It's the final hour for Caltech's oldest building, Throop Hall, as the headache ball strikes the tower of the earthquake-damaged structure which was brought down last month.

## Baldeschwieler selected to lead chemistry division

John D. Baldeschwieler will become chairman of the division of chemistry and chemical engineering on July 1.

The well-known physical chemist has just completed a White-House assignment as deputy science advisor and deputy director of the Office of Science and Technology.

In announcing the appointment, President Brown said:

"We would be fortunate to have Dr. Baldeschwieler at any time in the Institute's development, but we are particularly so now. Over the past 20 years revolutionary changes in our understanding of the nature of life have come from developments in molecular biology and the chemistry on which it is based.

"Caltech has pioneered many of these changes, and is committed to research in this field, which is one of Dr. Baldeschwieler's special interests, even more intensively. His intellectual strength, his eminence in research, and his experience at the national level make him a most valued addition to Caltech's academic and administrative leadership."

Before joining the White-House staff, Baldeschwieler was a professor of chemistry at Stanford University. He received a bachelor of chemical engineering degree from Cornell University in 1956, and a PhD in physical chemistry at the University of California at Berkeley in 1959. In 1965 he went to Stanford from Harvard, where he had been an assistant professor of chemistry.

The 39-year-old scientist was elected to the National Academy of Sciences two years ago, and was one of the youngest to receive this honor.

In the six-months interim before joining the Caltech faculty, Baldeschwieler is associated with the National Cancer Institute, National Institutes of Health, in Bethesda, Maryland.

On accepting his Caltech appointment Baldeschwieler said, "One of the most important basic research opportunities of the next decade will be to improve the understanding of physiologically active systems.

"I feel that Caltech, with its long tradition of cooperative biology and chemistry research programs, can play a unique role in bringing advanced physical and chemical tools to bear on these problems which are of fundamental importance to biology."

Baldeschwieler added that he looks forward to the growth of the Institute's research and teaching programs at the borderline between chemistry and biology.

Baldeschwieler will take over the duties of division chairman from John D. Roberts, Institute Professor of Chemistry, who agreed to serve as acting chairman following the resignation last July of George S. Hammond. Hammond left Caltech to become vice chancellor at the University of California at Santa Cruz.

## Science for Mankind drive exceeded \$70.4 million goal

Caltech alumni accounted for more than \$11 million of the \$70.4 million Science for Mankind development program recently concluded. The drive was launched in 1967.

Chairmen of the alumni phase of the development program were Ruben F. Mettler, BS '44, MS '47, PhD '49, Caltech trustee, and president of TRW, Inc., and J. Benjamin Earl, BS '44, president of the O.K. Earl Corporation.

During the five-year campaign, 3,600 alumni gave a total of \$3.7 million, exceeding their established goal of \$2 million by \$1.7 million. In addition, Caltech received bequests totaling \$1.6 million from the estates of alumni. Gifts from alumni trustees accounted for \$6.4 million, making a total of \$11.7 million in alumni contributions.

In announcing the windup of the campaign, President Harold Brown said that the goal had been exceeded by over a half-million dollars. At one time the amount was increased to 85 million dollars, but was later returned to the original 70.4 million dollar figure because a major foundation, which had been approached for support, abandoned the practice of making large grants to leading academic institutions.

More than half the funds came from individual gifts, including twelve million dollars in bequests. More than a quarter of the amount was received from corporations, and the remainder came from foundations and other organizations.

President Brown praised the work of his predecessor, Lee A. DuBridge; Simon Ramo, PhD '36, trustee, and vice chairman of TRW Inc., who was the campaign's national chairman; Arnold O. Beckman, PhD '28, chairman of the board of trustees, and chairman of Beckman Instruments, Inc.; Earl and Mettler, and other trustees and campaign workers.

In talking about the success of the campaign, Ramo said: "It has enabled Caltech to increase its service to the nation and the community, and has made it possible for the Institute to continue its vigorous research and teaching programs along many frontiers—this in spite of severe curtailments in federal funding that have been felt here and at other colleges and universities."

During Caltech's five-year campaign, seven new buildings were added and two additional large structures started. Seven named professorships were established, most of them supported by endowments.

The added buildings are the Donald E. Baxter, M.D., Hall of the Humanities and Social Sciences, the George W. Downs Laboratory of Physics and the Charles C. Lauritsen Laboratory of High Energy Physics, the Keith Spalding Building of Business Services, the Earle M. Jorgensen Laboratory of Information Science, the Big Bear Solar Observatory, and the Oscar G. Mayer Memorial Observatory Building at Palomar.

Under construction on the campus are two major buildings, the Seeley G. Mudd Building of Geophysics and Planetary Science and the behavioral biology building.

The new named professorships and their current occupants are Francis H. Clauser, Clark Blanchard Millikan Professor of Aeronautics and chairman of the division of engineering and applied science; Max Delbrück, Albert Billings Ruddock Professor of Biology; William A. Fowler, Institute Professor of Physics; Jesse L. Greenstein, Lee A. DuBridge Professor of Astrophysics; William T. Jones, Andrew W. Mellon Professor of Philosophy; James Olds, Bing Professor of Behavioral Biology; John D. Roberts, Institute Professor of Chemistry and acting chairman of the division of chemistry and chemical engineering.

## Fitzhugh, Cooley elected trustees

Two nationally known businessmen, one from New York and the other from San Francisco, have been elected to the board of trustees. They are Gilbert W. Fitzhugh, chairman and chief executive officer of the Metropolitan Life Insurance Company, and Richard P. Cooley, president and chief executive officer of the Wells Fargo Bank.



Cooley



Fitzhugh

Fitzhugh, a native New Yorker, has been associated with Metropolitan Life since he graduated from Princeton University magna cum laude 42 years ago. He has served the firm in a variety of administrative capacities. He became president and chief executive officer in 1963, and board chairman three years later.

In 1969-70 Fitzhugh headed President Nixon's blue-ribbon panel to investigate the internal organization of the Defense Department. Governor Nelson Rockefeller also appointed him to a panel to help resolve New York State's welfare problems.

Richard Cooley of San Francisco became the youngest major bank president in the country when he assumed the top post at Wells Fargo in 1966 at the age of 43. Under his direction the organization became the third largest bank west of the Mississippi and the eleventh largest in the U.S. The San Francisco-based institution has since expanded to Southern California and also operates internationally.

The San Francisco businessman was this year's head of the city's United Crusade, is on the board of the Children's Hospital, and is a member of the University of San Francisco board of regents. He is also a director of the Northrop Corporation and UAL, Inc.

## Leader of America



Arthur Galston, professor of biology at Yale and former Caltech faculty member, returned to campus as one of the Y's "Leaders of America" last month, and discussed his 1971 trip as the first American scientist to visit the People's Republic of China. Here, Galston talks with Caltech students and Wesley Hershey (far left), Y director, in an informal seminar in the Y lounge.



## Faculty Profile

## Wilse Robinson: chemist on the move

by Winifred Kennedy

Wilse Robinson's grandmother couldn't help but note the endless collections of insects, shells, rocks, and marine life from Florida's Clearwater Beach that constantly surrounded her grandson—nor his unsettling expertise at picking the particular log under which he could find a blacksnake.

As he prepared to enter college, she suggested that he should choose a major in which he could put his scientific curiosity to practical use. A pragmatic woman who had tasted the harsh pioneer life of Western Nebraska, she believed that no field could be more practical than that of chemical engineering.

Taking his grandmother's advice, G. Wilse Robinson, now a professor of physical chemistry at Caltech, enrolled in chemical engineering at Georgia Tech. However, he soon transferred to chemistry.

"I didn't like the units of measure the chemical engineers used," Robinson said, tongue in cheek. "Besides, I found I was more interested in organic chemistry—the bigger the molecule the better."

Dressed in a dark blue turtleneck sweater and slacks, his iron gray hair closely cropped, and his glasses dark-rimmed, Robinson discussed his academic career as he sipped a late lunch of orange juice and honey. He was a little tired because he had run to work that morning from his Glendora home 18 miles away. And he had done it in two hours, twenty minutes—averaging a little better than eight minutes a mile. Robinson gave up swimming for running several years ago (running is more adaptable to a variety of environments), and last year he logged many more than 100 miles a month.

In the midst of his undergraduate work in chemistry, Robinson's academic career was interrupted by World War II. A medical corpsman in the Navy, he ap-

plied for Officer's Candidate School just as the war in Europe was nearing its end. Robinson ranked as one of the two highest on the qualifying test, but this delayed his academic career.

"Since the war was almost over, they decided they'd only send the two top candidates to OCS and let the others go home," he explained regretfully. "So I went to OCS and then on to the exciting job of discharging people from the Navy. Following that, I left the Navy and went home."

Back at Georgia Tech after the war, ex-organic chemist Robinson changed his goal. Through the influence of Bill Eberhardt, a Caltech alumnus, PhD '45, he became involved with physical chemistry, particularly spectroscopy and molecular structure.

"At that time theoretical chemistry wasn't a very mature science, but because of Eberhardt I really got tuned into a lot of Pauling's work," Robinson said. "By this time I knew I wanted to become a research chemist and to teach at a university."

"I was interested in graduate work at Caltech but I didn't feel they'd be interested in me—my grades reflected a slight lack of motivation during the early war years. I thought I had a better chance at the University of Iowa."

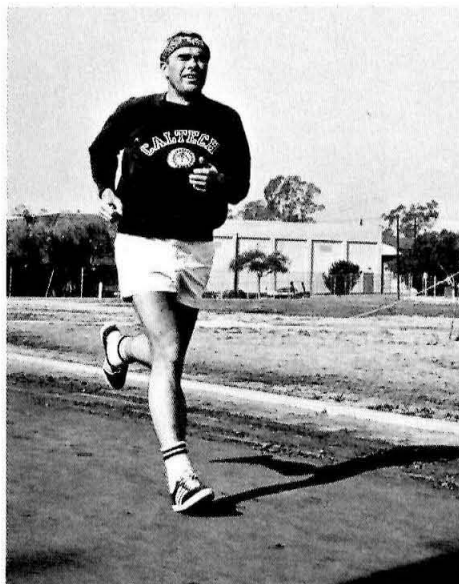
Because of his interest in molecular structure, Robinson selected a PhD project in microwave spectroscopy, a field in which great advances had been made as a result of radar research during the war.

"In those days," Robinson said, "only a few molecules had been studied. The common method for selecting your thesis topic was to pick a molecule that hadn't been analyzed, from the chemistry handbook."

Robinson chose phosgene and made his own laboratory supply of the substance. He soon found that he'd picked a tough project, and this experience gave him a

lifelong appreciation for the need to balance theory with experimentation.

Beside the fact that the molecule has two chlorine nuclei which produce unusually complicated effects because of their quadrupole moments, he also learned that the structure of the molecule was incorrectly described in the literature.



Robinson runs 100 miles a month.

But Robinson, despite these complications, completed the work for his PhD in a record two years that included a summer off to honeymoon with Ellen Robinson, a former graduate student in history at the University of Iowa. The wedding trip, an eight-week canoe trek through the Canadian wilderness, provided a marvelous way for the young couple to get to know each other.

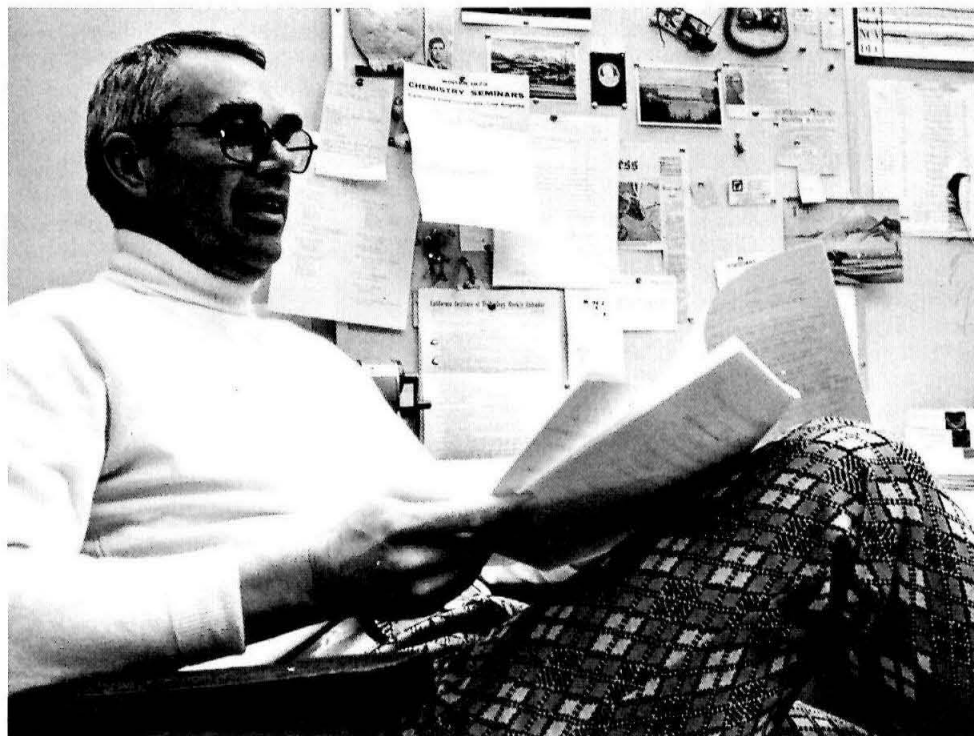
"There were so many crises—our canoe capsized, for example, and it rained continuously—that we didn't have much time to fuss," Robinson said. "It was a great experience. I'd love to do it again."

After receiving his PhD at Iowa, Robinson left for the University of Rochester where he accepted a postdoctoral position in electronic spectroscopy. There the Robinsons lived in the rural community of Honeoye Falls 20 miles south of Rochester.

Two years later Robinson accepted a position as assistant professor of chemistry at Johns Hopkins University, whose physics department had a long tradition in spectroscopy. Here he could take advantage of research opportunities available in few other places. Again the Robinsons found a home far away from the city, this time in Cockeysville, Maryland.

In 1959 Robinson was invited to visit Caltech for two weeks. Soon after returning to Johns Hopkins, he received a letter inviting him to join the Caltech faculty. That evening he enthusiastically informed his wife that they were off to California.

"I jumped at the offer because it was an advance for me," he said. "Besides, chemistry at Caltech did not have a very strong tradition in excited electronic states of molecules, and I felt that I could make a contribution."



Wilse Robinson, professor of physical chemistry, catches up on some editing work in his office.

## FACULTY HONORS

## Clarence Allen

Clarence Allen, professor of geology and geophysics, has been elected vice president of the Geological Society of America. The organization is the leading professional society of geologists in the U.S., with a membership in the neighborhood of 9,000.

## John Seinfeld

For the third consecutive year since the prestigious Camille and Henry Dreyfus Foundation awards to young chemists were established, Caltech has a faculty member among the national winners.

This year John Seinfeld, associate professor of chemical engineering, was one of the seventeen chosen to receive \$25,000 grants for their potential as scientist-educators and for their already-proven talent in promoting new methods of teaching and research. Seinfeld, 30,

will use his grant to expand research on the mathematical description of the behavior of air pollutants.

Last year, at 29, Jesse L. Beauchamp, associate professor of chemistry, was a winner, and Robert G. Bergman, at the age of 28, received a grant the first year.

## William H. Corcoran

William H. Corcoran, professor of chemical engineering and vice president for Institute relations, has been appointed chairman of the engineering education and accreditation committee of the Engineers Council for Professional Development. The committee is in charge of accreditation of all engineering schools in the U.S.

Professor Corcoran is also on the executive committee of the Association of Independent California Colleges and Universities.

## Don Anderson

Don Anderson, professor of geophysics and director of the seismological laboratory, has been made a fellow of the American Academy of Arts and Sciences.

## Dimitri Papanastassiou

Dimitri A. Papanastassiou, senior research fellow in planetary science, is the first recipient of the F. W. Clark Medal, awarded by the Geochemical Society—an associate group of the Geological Society of America. The medal will be awarded annually to "a young scientist for a single outstanding contribution to geochemistry or cosmochemistry, normally published within five years of the completion of the recipient's formal studies." The Society notified Papanastassiou that he had been chosen for his research in determining Rb-Sr ages on lunar rocks.

A few years later the Robinsons again found a home in the country. This time they chose an eight-acre, negative-profit farm on a hillside above Glendora. Its 1912-vintage, brown-shingled ranch house was inadequately heated, but provided an ideal environment for their dogs—two German Shepherds and a Great Pyrenees—and also for their peacocks.

Ideal, Robinson explained, except for the large population of coyotes in the area and the incompatibility of coyotes with peacocks. This incompatibility invariably works to the peacocks' disadvantage.

His brain saturated with science after a day's work at Caltech, Robinson finds a host of ways to achieve a change of pace. These range from bird watching—he and his wife have counted more than 100 varieties at their home—to thoroughbred racing, the stock market, or photography.

He also frequently compiles statistics on miscellaneous subjects for use at meetings or in conversations about various aspects of academic life.

One of his recent studies was an analysis of where the faculty at top-ranking chemistry departments in the United States had done their graduate and undergraduate work. Taking into account relative size, he discovered that Caltech is surpassed only by Harvard in terms of their PhD recipients chosen for these top academic jobs.

Another interest, travel to the South Pacific, received impetus last winter when Robinson spent several months at Canterbury University in New Zealand on a Guggenheim Memorial Foundation Fellowship. There he taught undergraduate physical chemistry, gave several seminars, and wrote two research papers.

Robinson's diverse nonscientific interests have in no way diminished his scientific productivity. He and his associates have published well over 100 papers in the fields of molecular structure, energy transfer and relaxation phenomena, excited states of organic crystals, and various other areas of spectroscopy and photobiology. His current interests include astrochemistry and the application of ultrashort laser light pulses to photochemical and photobiological research.

Robinson currently is editor of *Chemical Physics*, a member of the honorary advisory board of *Photochemistry and Photobiology*, and a member of the advisory editorial board of *Chemical Physics Letters*. He has been associate editor of the *Journal of Chemical Physics*, and a member of the editorial committee of the *Annual Review of Physical Chemistry*. He is a member of the American Chemical Society and a fellow of the American Physical Society.

As he looks to the future in his field, Robinson is excited about being a chemist.

"The future of chemistry is better than ever," he says. "There will be increasing emphasis on understanding biological processes at the molecular level, and that's where chemistry will play perhaps its most important role. In addition, chemistry penetrates many other parts of science—astrophysics, solid-state physics, geophysics, and engineering. This means there's a tremendous opportunity for chemists to get involved in work relating to all these fields."

It also means that even a chemist as energetic as Robinson won't run the risk of becoming bored.

## CALTECH NEWS

Vol. 7, No. 1

February 1973

Issued nine times a year (Oct., Nov., Dec., Feb., Mar., Apr., May, June, and July) and published by the California Institute of Technology and the Alumni Association, 1201 East California Blvd., Pasadena, California 91109.

Second-class postage paid at Pasadena, California.

## EDITORIAL STAFF

Executive editor: William K. Cassell

Associate editors: Joy Hays, Winifred Kennedy, Janet Lansburgh, Kathleen Marcum, and Kay Walker.

Photographer: Don Ivers.



# Retirement means action for two alumni engineers

by Janet Lansburgh

Retirement, to some men, means more hours on the golf course. But to two former Gnome House roommates, Mike O'Haver, BS '29, and Guy Chilberg, BS '28, retirement has provided an opportunity for them to take their engineering skills to two faraway countries and see the positive results.

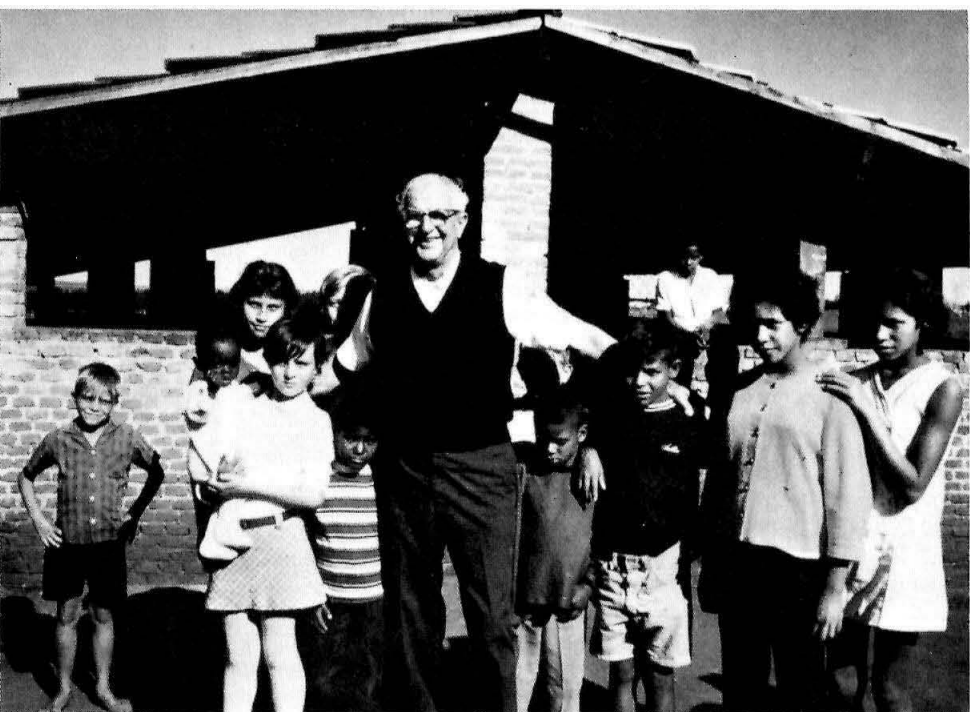
Chilberg, now a Coronado resident, was formerly engineering director for the American Telephone and Telegraph Company in New York. Last year he accepted an invitation to spend several months working with Taiwan's telecommunications administration, to help improve its organization and administration.

The invitation came via the International Executives Service Corps—a non-profit organization formed by a group of U.S. businessmen for the purpose of offering the services of retired executive, managerial, and technical men of good health and vitality to commercial enterprises in developing countries. The Corps, fi-

nanced by client companies, business sponsor members and foundations, and the federal government, seeks out such men. Many governmental and industrial problems in these countries are resolved with their expert help. These U. S. volunteers receive expenses but no salary.

Before Chilberg and his wife flew to Taiwan in December 1971 they spent a weekend with the O'Havers in their Arcadia home. Chilberg was so enthusiastic about his assignment that O'Haver decided to investigate the IESC too. He was promptly offered a stint in São Paulo, Brazil.

A former sales executive with the Southern California Gas Company, O'Haver was asked to train a group of young graduate engineers in São Paulo's Companhia Municipal de Gas. A new gas-manufacturing plant had been built with three times the capacity of the old one. A group of smart young, but inexperienced, engineers had been hired to sell this new increased capacity to business and industry. It was O'Haver's task to show them how to do it.



Mike O'Haver, BS '29, is surrounded by young friends at orphanage during his visit to Brazil.

late for him during his series of lectures.

Mike held classes every morning on how to market gas in São Paulo, the industrial capital of Brazil and the third largest city in the world. "When you stand on the top floor of a skyscraper down there," he said, "you look out at twenty-story buildings in every direction as far as the eye can see."

By the end of his four-month assignment, O'Haver had built up a technical library of books and pamphlets that deal with solutions to the application of gas to industrial processes, and the solutions to every problem he thought might be faced at a future date.

The O'Havers were active members of São Paulo's thriving Newcomers Club, they studied Brazilian Portuguese, and developed some lasting friendships. Their Brazilian friends saw to it that they entered into many activities of the city's life.

a ranching operation, which is now a flourishing 2,500-acre enterprise, with herds of prize cattle.

During their ranch visit, the O'Havers discovered that the Colemans had given some adjoining acreage to the Peace Corps and that now, for the first time, there is a school—the Coleman School—which takes students ages six to thirty, and even older, from 50 miles around.

Summing up his post-retirement sortie, O'Haver said, "We thoroughly enjoyed our stay. We were challenged by the language and the assignment, which was deeply rewarding. If the Brazilians benefit from our efforts as much as we did, we will be most happy!"

If the two old roommates communicate their enthusiasm for their missions to enough of their alumni colleagues, eventually there may be scarcely one who won't be on his way to some corner of the world to lend much-needed assistance from his store of education and experience.

## Calendar

- Saturday, Feb. 3, 8 p.m. Beckman TEODORO MORCA — FLAMENCO IN CONCERT, with Maria Del Rocio and guitar accompanist. \$5-4-3-2.
- Sunday, Feb. 4, 8 p.m. Dabney Lounge CHAMBER MUSIC CONCERT: Joel Krosnick (cello), Jill Shires (flute), Leonard Stein (harpichord), and Alan Vogel (oboe), in a program of works by Couperin, Elliott Carter, Bach, and Telemann. Free.
- Wed. through Sat., Feb. 7-10, 8 p.m. Ramo SPECTRUM PRODUCTION 3—Ivanov, by Chekhov. \$3-2; students, \$1.
- Saturday, Feb. 10, 8 p.m. Beckman THE VIENNA CHOIR BOYS sing operetta and classical, folk, and sacred songs. \$6.75-5.75-4.50-3.50.
- Sunday, Feb. 11, 3:30 p.m. Beckman COLEMAN CHAMBER CONCERT SERIES: Paul Kuentz Chamber Orchestra of Paris performs Vivaldi, Marcello, Bach, Barber, and Bartok. \$5-4-3-2.50; students, \$1 reduction.
- Monday, Feb. 12, 8 p.m. Beckman EARNEST C. WATSON CALTECH LECTURE SERIES: "The Apollo Lunar Program—The End of Exploration and the Beginning of Science," Leon T. Silver, professor of geology, Caltech. Free.
- Friday, Feb. 16, 8 p.m. Beckman ARMCHAIR ADVENTURES: "Japan Today," with Gene Wiancko. \$3-2.50.
- Saturday, Feb. 17, 11 a.m. & 2 p.m. Beckman CHILDREN'S SERIES: "Magic Theater," presented by South Coast Repertory Theatre. \$2; children, \$1.50.
- Friday, Feb. 23, 8 p.m. Ramo YOUNG CONCERT ARTISTS SERIES: Ursula Oppens (pianist) plays Bach, Beethoven, Ravel; also Davidovsky's Pulitzer Prize-winning work, *Synchronisms No. 6* for Piano and Tape. \$3; students, \$2.
- Saturday, Feb. 24, 8 p.m. Beckman THE INTIMATE P.D.Q. BACH: the musicological madness of Professor Peter Schickele. \$6.75-5.75-4.50-3.50.
- Sunday, Feb. 25, 8 p.m. Dabney Lounge CHAMBER MUSIC CONCERT featuring Jane Thorngren (soprano), Michele Duran (flute), Jonathan Mack (horn), Barbara Thomason (viola), and JoAnn Turovsky (harp), in a program of Debussy, Britten, Michalsky, Hindemith, and Crockett. Free.
- Monday, Feb. 26, 8 p.m. Beckman EARNEST C. WATSON CALTECH LECTURE SERIES: "The Micro-Electronic Revolution," Carver A. Mead, professor of electrical engineering, Caltech. Free.
- Fri. & Sat., March 2 & 3, 8 p.m. Beckman CARLOS MONTOYA, flamenco guitarist. \$6-5-4-3.
- Saturday, March 3, 11 a.m. & 2 p.m. Beckman CHILDREN'S SERIES: Heiken Puppets present *Pinocchio*. \$2; children, \$1.50.
- Sunday, March 4, 8 p.m. Dabney Lounge CHAMBER MUSIC CONCERT featuring Jonathan Mack (tenor) and Bruce Ferden (piano) in Schubert's *Die Schöne Müllerin*, Opus 25. Free.

The Chilbergs were away five months, the O'Havers four (one of the requirements is that each man must take his wife along). The two couples were treated with such enthusiasm and hospitality by their host countries that, as Chilberg says, "It almost got to be embarrassing."

The director of engineering for the national communications operation was Guy's sponsor. He and his wife saw to it that the Chilbergs visited every part of the island "in ways that a tourist would never have a chance to."

Chilberg found the Taiwanese communications technology excellent. His particular job was to investigate operational procedures in depth and make recommendations.

While her husband was working, Mrs. Chilberg took courses in Taiwanese culture and also tutored some of their new friends' children in English.

O'Haver had more of a language problem in Portuguese-speaking Brazil, where English is not as widely spoken as in Nationalized China. He had to rely upon whatever English-speaking engineers the gas company had, to interpret and trans-



Guy Chilberg, BS '28, with his Taiwanese secretary and technical consultant-interpreter.

## ALUMNI EVENTS

- February 16**
- San Francisco Chapter Meeting.* The Engineers' Club, Hong Kong Bank Building, corner Sansome and Pine, San Francisco. No-host cocktails, 6 p.m.; dinner, 7 p.m. Speaker—Ray Owen, professor and former chairman of the division of biology, will talk about the changing scene at Caltech and why biology looms so large in the future of science.
- February 23 and March 2**
- Annual Wine Tasting.* Main dining room and Hall of Associates, the Athenaeum. Sherry tasting, 8 p.m.; wine lecture at 8:30 p.m., followed by wine tasting. Representatives of two prestigious wineries, Mr. Michael Mondavi of Mondavi Winery and Mr. Peter Mirassou of Mirassou Winery, will talk about discernment in the appreciation of wine.
- April 9**
- Alumni Dinner—Earnest C. Watson Cal-*

- tech Lecture Series.* No-host cocktail hour, the Athenaeum, 6 p.m.; dinner, 6:45 p.m. Speaker—Luis W. Alvarez, professor of physics, University of California, Berkeley, "Where Were the Pharaohs Buried?—Probing the Pyramids with Cosmic Rays." Beckman Auditorium.
- May 12**
- Alumni Seminar Day.* Registration, Dabney Lounge, 8:30 a.m.; general sessions, 9:30 a.m. Social hour, the Athenaeum, 5:30 p.m.; dinner, 6:30 p.m. Speaker—Harrison H. "Jack" Schmitt, geologist and astronaut, BS '57.
- June 1**
- Annual Dinner and Class Reunions.* Half-Century Club luncheon, the Huntington-Sheraton Hotel, 12 noon; campus tours, 4 p.m.; social hour, the Athenaeum, 6 p.m.; dinner, 7 p.m. Graduating classes of 1968 and earlier five-year intervals will be honored.

### ALUMNI DIRECTORY SUPPLEMENT

The supplement to the 1972 Alumni Directory is now ready for distribution. It lists the names and addresses of those who received degrees in June 1972. Copies will be sent automatically to Association members who received degrees in 1972. Other Association members may receive a copy by filling in the form below and sending it to the Alumni Office, 106 Dabney — mail code 106-40, California Institute of Technology, Pasadena, California 91109.

Please send the 1973 Supplement of the 1972 Directory to:

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

### Placement Assistance To Caltech Alumni

- The Caltech Placement Service may be of assistance to you in one of the following ways:
- (1) Help you when you become unemployed or need to change employment.
  - (2) Inform you of possible opportunities from time to time.
- This service is provided to alumni by the Institute. A fee or charge is not involved. If you wish to avail yourself of this service, fill in and mail the following form to:
- Caltech Placement Service  
California Institute of Technology  
Pasadena, California 91109
- Please send me: (Check one)
- ☐ An application for placement assistance
- ☐ A form indicating a desire to keep watch for opportunities although I am not contemplating a change.
- Name \_\_\_\_\_
- Degree(s) \_\_\_\_\_ Year(s) \_\_\_\_\_
- Address \_\_\_\_\_



# PERSONALS

## 1924

FRED J. GROAT has been appointed to the board of directors of the new Sacramento Regional Transit District by the city council. He writes, "In retirement since 1970, my principal activity has been local government, and public transit has been my major concern. Last fall, in my first race for public office, I was defeated in the runoff for city council."

## 1927

BENJAMIN R. LOXLEY was with the Southern California Edison Company from the time he graduated until he was retired as apparatus engineer five years ago. He and



Beek '47



Statler '56

his wife toured Europe for two years and have visited most of the national parks in the U.S.

FRANK A. NICKELL, MS '28, PhD '31, a consulting geologist in San Mateo, has been a consultant on irrigation and power projects for private companies and government agencies in about 40 countries and all continents. He has been around the world 67 times and has served as technical associate for the Presidential Commission on the Sea-Level Canal and as consultant on the California State Water Plan.

## 1937

CLAUDE B. NOLTE sold his business, Kingmann-White, Inc., to Yarway Corporation of Pennsylvania in 1970 and is now a corporate consultant for Yarway, concentrating on new-product development and acquisition. He and his wife Dorothy moved from California to Villanova, a suburb outside Philadelphia.

## 1941

PHILLIP D. BROOKS has moved from Northrop Corporation to the McDonnell Douglas Corporation in Huntsville, Alabama, where he is manager of advanced technology and manned systems development.

## 1947

BARTON BEEK, a partner since 1962 of O'Melveny & Myers, attorneys, has been elected a director of Far West Financial Corporation and of its principal subsidiary, State Mutual Savings and Loan Association. He is also a director of Thrifty Drug Stores Company and the Sierracin Corporation, and lives in Newport Beach.

## 1948

HENRY R. CHOPE, MS, executive vice president and director of Industrial Nuclear Corporation, Columbus, Ohio, received the Albert F. Sperry Award from the Instrument Society of America. He was recognized for his work in the development of nuclear and radio-frequency-based measuring systems and their application to process control in the tobacco, paper, plastics, and other industries.

## 1956

EASTMAN N. HATCH, PhD, was recently named chairman of the department of physics of Utah State University in Logan, Utah.

IRVING C. STATLER, PhD '56, has been appointed director of the Ames Directorate, Army Air Mobility Research and Development Laboratory, Ames Research Center, Moffett Field, California. Prior to joining the headquarters of the laboratory in 1970 as the principal research scientist in aero-

dynamics and performance, Statler served as head of the applied mechanics department, and later as senior staff scientist, aerosciences division, Cornell Aeronautical Laboratory.

## 1959

KAYE D. LATHROP, MS '59, PhD '62, was named a fellow of the American Nuclear Society in honor of his contributions to the understanding and numerical solution of problems in neutron and radiation transport theory. He is now a staff member and alternate group leader at the Los Alamos Scientific Laboratory in New Mexico.

## 1960

SAMUEL BERGMAN received his PhD in computer science from the University of Pennsylvania and is now an assistant professor of information sciences at Temple University.

ROGERS WYMAN HARDER, MS, formerly vice president of Lear Siegler's electronics instrument division, is now vice president and general manager of the Harder Trailer Corporation in Santa Barbara.

## 1961

EARL L. DOWTY, MS, is currently manager of the systems analysis branch at Gulf General Atomic in San Diego. This information was relayed by WAYNE PFEIFFER, PhD '69, who was recently promoted to manager of the methods development branch at Gulf General Atomic.

RICHARD N. SILVER, PhD '71, is now a research associate in applied physics at Caltech. He held a similar position at Brown University before coming to Pasadena.

## 1964

LUC O. BAUER, MS, PhD '68, formerly with Hughes Research Laboratories in Newport Beach, joined Intersil in Cupertino, California, and is heading the wafer galvanation line of the company's European subsidiary, Eurosil, in Munich, Germany. He would like to welcome any Caltech friends visiting in Bavaria.

FRANCIS A. DAHLEN received his PhD in geology from the University of California at San Diego and is now assistant professor in the department of geological and geophysical sciences at Princeton University.

JOHN C. DIEBEL, MS '66, earned his doctorate at USC and joined the technical staff of Hughes Aircraft Company. He is now living in Canoga Park.

## 1965

DAVID J. DUCHAMP, PhD, was honored by the Upjohn Company of Kalamazoo, Michigan, as an outstanding contributor to the firm's research and development program. A physical chemist, he is a senior scientist with Upjohn's pharmaceutical research and development division.

## 1966

JAMES W. BROOKS, JR., has joined the Institute for Defense Analyses as a research staff member and lives in Reston, Virginia.

## 1967

DOUGLAS M. EARDLEY completed his graduate studies at the University of California at Berkeley and is now a research fellow in physics at Caltech.

## 1968

KIRBY W. FONG, MS, PhD '72, is now working in the computing science and services division of the Los Alamos Scientific Laboratory in New Mexico. He is a member of the American Mathematical Society, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics.

## 1969

MICHAEL L. FREDMAN is an instructor in the department of mathematics at MIT. He did his graduate work at Stanford University.

WILLIAM H. INGHAM, MS, is now an instructor in the physics department of East Stroudsburg State College in Pennsylvania.

## 1970

ROBERT G. LINDGREN, PhD, formerly a research fellow at Caltech, is now a chemical engineer with R&D Associates in Santa Monica.

## 1971

RAY D. BOWMAN, PhD, a Caltech research fellow moved to Jacksonville, Florida, to become assistant professor at the University of Florida.

JOEL H. GYLLENSKOG, MS, is an instructor in the computer science department of California State University at Sacramento. He was an automatic programmer for Burroughs Corporation.

## OBITUARIES

### 1907

PHILIP HUBERT FROHMAN, on October 30, of complications resulting from an automobile accident. Considered a genius of Gothic design, he was architect for the Washington Cathedral and some fifty other Gothic churches in this country.

### 1922

WILLARD J. BEMAN, in 1970. A graduate in chemical engineering, he was retired at the time of his death and had been a resident of Pasadena.

DONALD F. SHUGART, on November 8. A former construction engineer, he was retired and living in Duarte at the time of his death. He is survived by his wife.

COL. GLEN M. WEBSTER, on November 17. Retired at the time of death, he had been living in South Pasadena. He had been an employee of the Pacific Telephone and Telegraph Company for many years.

### 1925

HOLLAND M. FLICK, several years ago. He was a former district engineer with the Los Angeles County Department of Building and Safety.

### 1926

CLAUDE D. HAYWARD, MS '27, PhD '29, on August 22. Hayward had been living in Schenectady, N.Y.

WILLIAM S. KINGSBURY, JR., on October 24. Formerly a lieutenant colonel with the U.S. Army and a district manager for Ryerson Steel Company, he was living in Sacramento at the time of death.

JOACHIM F. VOELKER, on November 14. Voelker had been a chemical engineer with the Penn Dixie Cement Corporation in Nazareth, Pa. He is survived by his wife, Katherine, a daughter, and three grandchildren.

### 1927

ROBERT T. ROSS, in 1972. A member of the Gnome Club, he had been director of research at Fairview State Hospital, Costa Mesa, and lived in Corona Del Mar.

### 1929

FREDERICK R. CLINE, MS '30, on December 12, during open-heart surgery. Retired at the time of his death, and living in Pasadena, he had been with the U.S. Army Corps of Engineers. He is survived by his wife, Emily, a son, and a daughter.

### 1936

JOHN D. WORKS, on November 1, of injuries resulting from an accident. He had been president of the AMW Corporation, Arlington, Mass., a manufacturer of machinery.

### 1947

LUIS FLORES-COVARRUBIAS, on September 15, while residing in Tacubaya, Mexico.

### 1951

EMIL V. BOBLETT, on September 7. Boblett had been senior resident engineer with the Ampex Corporation, Redwood City, Calif.

WILLIAM HARRIS HENLEY, on July 12. He was a department manager for the Conduction Corporation in Northridge, and lived in Granada Hills.

### 1960

FRANK WIGHT WEBER, in November. He lived in Duarte and had been with the Burroughs Corporation as senior electronic engineer. He is survived by his wife.

### 1965

DEL E. LEVY, killed in a traffic accident on November 15. A staff engineer with the IBM Corporation, he lived in Los Gatos.

## ALUMNI ASSOCIATION OFFICERS AND DIRECTORS

**PRESIDENT** Arthur O. Spaulding '49  
**SECRETARY** H. M. O'Haver '29

**VICE PRESIDENT** Stuart M. Butler '48  
**TREASURER** Raymond L. Heacock '52

**DIRECTORS**  
Charles E. Auerbach '47 Richard Karp '64  
William J. Carroll '48 Wayne T. McMurray '45  
Spicer V. Conant '64 Reuben B. Moulton '57  
James L. Higgins '56 Richard C. Nielsen '66  
William C. House '40 Cornelius J. Pings '51  
Douglas Josephson '65 Fred A. Wheeler '29  
Stanley T. Wolfberg '38

Secretary Emeritus: Donald S. Clark '29  
Treasurer Emeritus: John R. Fee '51

**EXECUTIVE DIRECTOR**  
James B. Black

## ALUMNI CHAPTER OFFICERS

**BOSTON CHAPTER**  
**President** Duane Marshall '53  
9 Hadley Road, Lexington, Mass. 02173

**CHICAGO CHAPTER**  
**President** Howard E. Jessen '46  
225 Ridge Ave., Winnetka, Ill. 60093

**NEW YORK CHAPTER**  
**President** Kaytaro G. Sugahara '61  
111 Cobb Lane, Tarrytown, New York 10591  
**Vice President** Delbert C. McCune '56  
Boyce Thompson Institute,  
1086 North Broadway, Yonkers, New York 10701  
**Secretary-Treasurer** Harry J. Moore, Jr. '48  
IBM Corp., Route 22, Armonk, New York 10504

**SACRAMENTO CHAPTER**  
**President** William D. Pyle '49  
3920 Dunster Way, Sacramento, Calif. 95825  
**Vice President** Dudley E. Bennett '47  
4124 Zephyr Way, Sacramento, Calif. 95821  
**Secretary-Treasurer** Harris K. Mauzy '30  
2551 Carson Way, Sacramento, Calif. 95821

Meetings: University Club, 917 "H" St. Luncheon second Friday of each month at noon. Visiting alumni cordially invited—no reservations.

**SAN DIEGO CHAPTER**  
**President** David B. Wilford '48  
6581 Avenida Wilfredo, La Jolla, Calif. 92037

**SAN FRANCISCO CHAPTER**  
**President** Charles E. Auerbach '47  
82 Lagoon Rd., Belvedere, Calif. 94920  
**Vice President** Thomas M. Menzies '65  
801 Cotton, Menlo Park, Calif. 94025  
**Secretary-Treasurer** Robert T. Jenkins '65  
1191 Yorkshire Ct., Cupertino, Calif. 95014

Meetings: Engineers' Club, 16th floor, Hong Kong Bank Bldg., San Francisco. Informal luncheons every Thursday at 11:45 a.m. Contact Mr. Sigworth, 894-2918, on Thursday morning for reservations.

**SAN JOAQUIN-MOJAVE CHAPTER**  
**President** Bruce Robinson, Jr. '50  
3219 Christmas Tree Lane, Bakersfield, Calif. 93306  
**Secretary-Treasurer** William F. Edmondson '52  
1831 Truxton, Bakersfield, Calif. 93306

**WASHINGTON, D.C., CHAPTER**  
**President** Bernard B. Watson '35  
Research Analysis Corp., McLean, Va. 22101  
**Vice President** John T. Cookson, Jr. '66  
1225 Noyes Dr., Silver Springs, Md., 20910  
**Secretary-Treasurer** Edwin C. James '71  
6111 Temple St., Bethesda, Md. 20034



Three alumni members of the Caltech Associates attending an Athenaeum dinner were (from left) Howard Smits, BS '31, Millard Jacobs, BS '40, and (far right) Ben Earl, BS '44, with Guy Pauker, visiting associate and member of EQL, who gave talk on Indonesian politics.